



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/732,704	12/11/2000	Yasuhiko Muramoto	Q62122	2918

7590 05/20/2005  
SUGHRUE, MION, ZINN, MACPEAK & SEAS, PLLC  
2100 Pennsylvania Avenue, N.W.  
Washington, DC 20037-3202

EXAMINER

MENBERU, BENIYAM

ART UNIT PAPER NUMBER

2626

DATE MAILED: 05/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	09/732,704	MURAMOTO, YASUHIKO	
	Examiner	Art Unit	
	Beniyam Menberu	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 16 November 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: Detailed Action

### **DETAILED ACTION**

Applicant's arguments, see page 8, filed November 16, 2004, with respect to the rejection(s) of claim(s) 1, 2, and 4 under U.S. Patent No. 5774634 to Honma et al in view of U.S. Patent No. 5019896 to Shimazaki and rejection of claim 3 under U.S. Patent No. 5774634 to Honma et al in view of U.S. Patent No. 5019896 to Shimazaki further in view of U.S. Patent No. 6347153 to Triplett et al and rejections of claims 5 and 6 under U.S. Patent No. 5774634 to Honma et al in view of U.S. Patent No. 5019896 to Shimazaki further in view of U.S. Patent No. 5361142 to Semasa have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of U.S. Patent No. 5774634 to Honma et al in view of U.S. Patent No. 6108105 to Takeuchi et al.

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 2, 4, 5, 6, 7, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5774634 to Honma et al. in view of U.S. Patent No. 6108105 to Takeuchi et al.

Regarding claims 1 and 5, Honma et al disclose an image transformation apparatus/program (column 23, lines 18-30) comprising:  
an image receiving section for receiving an image represented by digital data (Figure 4, reference 1);  
an image sort discrimination section for discriminating whether the image received by said image receiving section is a halftone dot image or a multiple gradation image (column 23, lines 18-37, Figure 27, reference 504-A). However Honma et al does not disclose an image transformation section for applying a conversion processing for the multiple gradation image to the halftone dot image when it is decided by said image sort discrimination section that the image received by said image receiving section is the multiple gradation image; and  
a driver section for outputting an image discriminated as the halftone dot image by said image sort discrimination section and an image converted into the halftone image by said image transformation section to an image output device for outputting a visual image.

Takeuchi et al disclose an image transformation section for applying a conversion processing for the multiple gradation image to the halftone dot image when it is decided by said image sort discrimination section that the image received by said image receiving section is the multiple gradation image (Figure 4, reference 35, 38; The output of multi-value discriminated data of Honma et al can be applied to the input of reference 38; column 6, lines 21-48); and  
a driver section for outputting an image discriminated as the halftone dot image by said

image sort discrimination section and an image converted into the halftone image by said image transformation section to an image output device for outputting a visual image (Figure 4, reference 40; column 6, lines 17-21).

Honma et al and Takeuchi et al are combinable because they are from the similar problem solving area of image processing.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the halftone conversion and driver of Takeuchi et al with the system of Honma et al to print halftone dot images.

The motivation to combine the reference because in order to print the multi-value data of Honma et al the discriminated multi-value data have to be converted by the dither processing circuit of Takeuchi et al (reference 38) in order to print halftone dots.

Regarding claims 2 and 6, Honma et al in view of Takeuchi et al teach all the limitations of claims 1 and 5 respectively. Further Honma et al in view of Takeuchi et al disclose an image transformation apparatus/program according to claim 1, wherein said image receiving section receives a color image (column 8, lines 53-67), and said image transformation section applies a color conversion processing to a color image decided by said image sort discrimination section that the image received by said image receiving section is the multiple gradation image (Takeuchi et al disclose black and white halftone conversion for data discriminated as multi-value data. However in combination with Honma et al the method of Takeuchi et al can be applied for color images), and applies the conversion processing for the multiple gradation image to the halftone dot image (Takeuchi et al: Figure 4, reference 35, 38; The output of multi-value

discriminated data of Honma et al can be applied to the input of reference 38; column 6, lines 21-48).

Regarding claim 4, Honma et al in view of Takeuchi et al teach all the limitations of claim 1. Further Honma et al disclose an image transformation apparatus according to claim 1, wherein said image receiving section is adapted to receive a binary halftone dot image and a 256 gradation of multiple gradation image (The input images can be characters or lines, which are classified under binary (column 5, lines 64-67) and 256 gradation images (column 6, line 10) ).

Regarding claim 7, Honma et al in view of Takeuchi et al teach all the limitations of claim 1. Further Honma et al disclose the image transformation apparatus of claim 1, the image receiving section is adapted to receive images from a raster image processor (column 20, lines 60-67; column 21, lines 1-2).

Regarding claim 10, Honma et al in view of Takeuchi et al teach all the limitations of claim 1. Further Honma et al disclose the image transformation apparatus of claim 1, wherein the received images do not have page description language (Honma et al disclose an interpreter (Figure 22, reference 402) which can rasterize PDL data to produce raster image. The discrimination of image data is performed on raster image data thus the discrimination processing uses as input raster image data and not PDL data (column 20, lines 60-67; column 21, lines 1-7; Figure 22, reference 402)).

3. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5774634 to Honma et al. in view of U.S. Patent No. 6108105 to Takeuchi et al further in view of U.S. Patent No. 6347153 to Triplett et al.

Regarding claim 3, Honma et al in view of Takeuchi et al teach all the limitations of claim 1. However Honma et al in view of Takeuchi et al does not disclose an image transformation apparatus according to claim 1, wherein said image receiving section receives together with the image additional information indicating whether the image received by said image receiving section is the halftone dot image or the multiple gradation image, and said image sort discrimination section discriminates whether the image received by said image receiving section is the halftone dot image or the multiple gradation image in accordance with the additional information.

Triplett et al discloses a method for applying tagging information to image sections, which are used to classify the image types such as halftone or continuous tone (column 27, lines 17-20; column 2, lines 33-35). Triplett further teaches to use the tags in the system for classification of the images (column 27, lines 50-60).

Honma et al, Takeuchi et al, and Triplett et al are combinable because they are from the similar problem solving area of image processing.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to implement image tagging of Triplett et al with the system of Honma et al in view of Takeuchi et al to discriminate different types of images.

The motivation to combine the reference is because tagging the input image with image type information will make it easier to implement the discrimination unit.

4. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5774634 to Honma et al. in view of U.S. Patent No. 6108105 to Takeuchi et al further in view of U.S. Patent No. 5315382 to Tanioka.

Regarding claim 8, Honma et al in view of Takeuchi et al teach all the limitations of claim 1. However Honma et al in view of Takeuchi et al does not disclose the image transformation apparatus of claim 1, the image receiving section is adapted to receive a ternary halftone dot image or a quaternary halftone dot image.

Tanioka disclose the image transformation apparatus of claim 1, the image receiving section is adapted to receive a ternary halftone dot image or a quaternary halftone dot image (Tanioka disclose recording signal controller (Figure 1, reference 4) which receives ternary halftone dots (Figure 1, reference 4; column 3, lines 65-67; column 4, lines 1-11)).

Honma et al, Takeuchi et al, and Tanioka are combinable because they are from the similar problem solving area of image processing.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the ternary halftone dots as input with the system of Honma et al in view of Takeuchi et al to print halftone dot images.

The motivation to combine the reference because Tanioka teaches that levels higher than 2 can produce better print quality (column 1, lines 43-60).

5. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5774634 to Honma et al. in view of U.S. Patent No. 6108105 to Takeuchi et al further in view of U.S. Patent No. 5870503 to Kumashiro.

Regarding claim 9, Honma et al in view of Takeuchi et al teach all the limitations of claim 1. However Honma et al in view of Takeuchi et al does not disclose the image



Art Unit: 2626

transformation apparatus of claim 1, the image receiving section is adapted to receive a multiple gradation image of 128 gradations or 1024 gradations.

Kumashiro disclose the image transformation apparatus of claim 1, the image receiving section is adapted to receive a multiple gradation image of 128 gradations or 1024 gradations (column 8, lines 25-36).

Honma et al, Takeuchi et al, and Kumashiro are combinable because they are from the similar problem solving area of image processing.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the 128 gradation level inputting of Kumashiro with the system of Honma et al in view of Takeuchi et al to implement 128 gradation multi-level images.

The motivation to combine the reference because 128 gradation level images takes up less space than 256 gradation level images and further it makes it convenient to have different level of multi-value images as input.

#### ***Other Prior Art Cited***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 6614943 to Morimatsu et al disclose binary coding for images.

U.S. Patent No. 4701811 to Moriguchi et al disclose method for tone reproduction.

**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Beniyam Menberu whose telephone number is (571) 272-7465. The examiner can normally be reached on 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kimberly Williams can be reached on (571) 272-7471. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the customer service office whose telephone number is (571) 272-2600. The group receptionist number for TC 2600 is (571) 272-2600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov/>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**Patent Examiner**

Beniyam Menberu

BM

05/14/2005

*KA Williams*

KIMBERLY WILLIAMS  
SUPERVISORY PATENT EXAMINER